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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,233	11/12/2003	Tomohiro Wakabayashi	Q78419	3543
23373	7590	01/30/2006	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			LE, THANH TAM T	
			ART UNIT	PAPER NUMBER
			2839	

DATE MAILED: 01/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/705,233	WAKABAYASHI ET AL.	
	Examiner	Art Unit	
	Thanh-Tam T. Le	2839	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11/22/05.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 1, line 5 and claim 2, line 5, "a clearance ...." is unclear and confusing, the Applicant should disclose more limitations to clarify a structure of "a clearance".

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5, 7 and 9-10, insofar as the claims can be understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Hotea et al. (5,450,514).

Regarding claims 1-2 and 9-10, Hotea et al., figures 2 and 19, discloses a coupler (291) formed with a hollow portion (not labeled) in which leading end portions of ferrules are opposed to each other, each ferrule (1) attached to a terminal of an optical fiber (213), the each ferrule comprising:

- a main body (not labeled) formed with a hole (not labeled) which a core wire (not shown) of the optical fiber is inserted;
- a positioning member (not labeled) monolithically formed with the main body to place the optical fiber in such a position that a clearance is formed between a deepest portion (62, figure 2) of the hole and a leading end of the core wire, wherein the positioning member continuously surrounds the core wire; and

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- a leading end portion (61, figure 2) monolithically formed with the main body to serve as a convex lens such that light emitted from the core wire of the optical fiber is made to be parallel light, while incident light is focused onto the core wire.

Regarding claim 3, the leading end portion is comprised of optically transparent resin (last two lines of an abstract).

Regarding claim 4, the clearance is filled with filler (column 3, lines 57-60) such that the clearance serves as a light guide path.

Regarding claims 5 and 7, the filler is comprised of adhesive or an optically transparent gel (column 3, lines 57-60).

4. Claims 1-2 and 11-12, insofar as the claims can be understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Chown (4,290,667).

Regarding claims 1-2, Chown, figure 2 shows a ferrule (21) attached to a terminal of an optical fiber (23), the ferrule comprising:

- a main body (not labeled) formed with a hole (24) which a core wire (25) of the optical fiber is inserted;
- a positioning member (not labeled) monolithically formed with the main body to place the optical fiber in such a position that a clearance is formed between a deepest portion of the hole and a leading end of the core wire (column 3, lines 42-45), wherein the positioning member continuously surrounds the core wire; and

- a leading end portion (not labeled) monolithically formed with the main body to serve as a convex lens (26) such that light emitted from the core wire of the optical fiber is made to be parallel light (column 3, lines 46-52), while incident light is focused onto the core wire.

Regarding claims 11 and 12, the positioning member contacts at least the core wire.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hotea et al. (5,450,514).

Hotea et al. disclose the claimed invention as described above except for the refractive index of the adhesive/gel is selected to be greater than a refractive index of a material forming the leading end portion and having a refractive index difference corresponding to a numerical aperture of the core wire. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide Hotea et al. to have the refractive index of the adhesive/gel is selected to be greater than a refractive index of a material forming the leading end portion and having a refractive index difference corresponding to a numerical aperture of the core wire, since it has

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been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), in order to have more securing between the optical and the ferrule.

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 1 and 2 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh-Tam T. Le whose telephone number is 571-272-2094. The examiner can normally be reached on 7:30-5:00.

9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TC Patel can be reached on 571-272-2098. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'T. Le', with a long horizontal line extending to the right.

Thanh-Tam T. Le  
Primary Examiner  
Art Unit 2839

TL.  
01/26/06.